

NAME: \_\_\_\_\_

PERIOD: \_\_\_\_\_

## Rock Layer Correlation Lab

The Cayuga Lake Basin contains one of the scenic Finger Lakes of central New York State. During the Devonian Period, this area was under a warm, shallow sea. Sediments deposited on this seafloor led to the formation of sedimentary rock up to 1200 meters thick. Many quarries, road cuts, and spectacular gorges allow the study of these rock layers. By correlating the rocks of different outcrops, geologists have been able to determine the order in which the layers were formed. A **stratigraphic column** shows all the rocks in an area in this order. In this activity, you will construct such a column for the Cayuga Lake Basin, using information from nine outcrops.

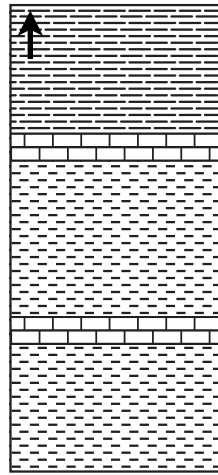
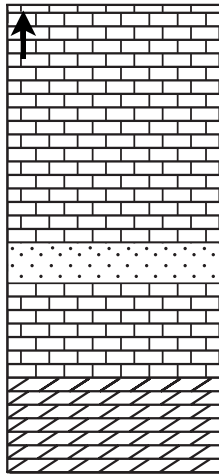
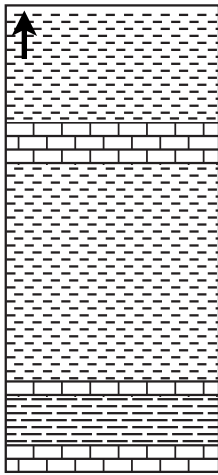
### PROCEDURE

1. The attached page shows cross sections of nine outcrops in the Cayuga Lake Basin. Study the cross sections and identify the types of sedimentary rocks that occur in each. Carefully cut out each cross section.
2. Lay the cross sections on your desk and move them around to match the rocks of one outcrop with similar rocks in other outcrops.
3. Once you have matched all of the cross sections, glue or tape them on to the back of this sheet to form a single stratigraphic column. The cross sections will overlap each other where layers are duplicated.
4. The table on the right describes the rock layers in your column. The oldest rock units are at the bottom, and the youngest are at the top. Use the table to label each of the rock units in your column.

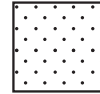
<b>Devonian Rock Units of the Cayuga Lake Basin</b>	
<b>Name</b>	<b>Description</b>
Sherburne	shale with increasing sand
Geneseo	black shale; about 10 m thick
Tully	limestone; about 3 m thick
Moscow	shale with limestone at base; about 15 m thick
Ludlowville	shale; about 25 m thick
Skaneateles	shale with limestone on top; total thickness about 28 m
Marcellus	primarily shale, black shale at base, then thin limestone; nearly 4-m thick limestone at top, total thickness nearly 25 m
Onondaga	limestone; over 25 m thick
Oriskany	sandstone; about 1.2 m thick
Manilus	limestone; about 7.6 m thick
Rondout	dolomite; about 7.6 m thick

### QUESTIONS

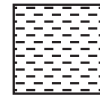
1. Describe the two ways the rock of the Tully formation could have formed.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. Describe the way the rock of the Oriskany formation likely formed.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Which rock formation formed first? How do you know? What is the name of this geologic law?  
\_\_\_\_\_



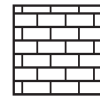
Sandy Shale



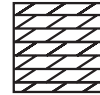
Sandstone



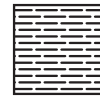
Shale



Limestone



Dolomite



Black Shale

